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Railway Efficiency and Labor

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Washington, D. C.

AMERICANS have been wont to pride themselves on the perfection with which their steam transportation is supposedly conducted. Ever since railroading acquired an appeal to the national imagination, many individuals as well as the public and technical press have striven to point out the high efficiency and fine service of American railways, especially as compared with those of foreign countries. Large locomotives, high capacity freight cars, certain well appointed passenger trains, long freight trains, heavy bridge and road construction, are pointed to as particular evidences of American superiority in the art of transportation. And behind all these outward evidences is supposed to be the enterprise and ingenuity characteristic of this nation. Occasionally, to be sure, a late or overcrowded passenger train, a streak of poor dining car service or a long delayed or damaged

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freight shipment may call forth more or less violent abuse of some particular system, but in no way is this ever considered a reflection on the general merit of the national railway enterprise.

It cannot be maintained, however, that the people of this country, in spite of the impression that their railroads are relatively efficient, have, as a class, been satisfied with their management and control. Judging from the mass of past regulatory legislation, city, state and national, finally capped by the climax of federal control as precipitated by the recent war, we must conclude that something has not been going well with the relationship of this industry to the public. And today, the war long over, with the railroads still rented to the government, a situation has arisen concerning the future welfare of transportation which apparently cannot be remedied by resorting to the usual measures of the past.

It is unfortunate in view of the present impasse in which the industry finds itself that the impression should ever have come into existence, despite all its other ills, that railroad efficiency as such is of a high order. The heritage of this notion is doing more to becloud the railroad problem as it stands than almost any other phase surrounding it. And those concerned with the solution of the problem along lines intended primarily to safeguard or further certain types of financial control through the mediums at their disposal, are, of course, making the most of this fallacy. Today, as their own iniquities are coming home to roost, these interests are, with characteristic alacrity, taking advantage of the short cut reasoning of the popular mind, and are maintaining that the deficits which have occurred under federal control are due to the inefficiencies which, as they allege, inevitably follow governmental management.

This, of course, is absolutely untrue and has so been demonstrated by both Mr. Wm. G. McAdoo and Mr. Walker D. Hines, the former and the present Directors General of the United States Railroad Administration in much of their recent testimony. In the last two years all the fine work of fifty years of financial exploitation has come to a head. The first necessity of the federal railroad administration after its organization was to get the industry on a square basis with respect to all the interests concerned, and this it certainly did with a speed, a thoroughness

and a fairness truly remarkable. That the whole problem with its infinite variations and ramifications was not solved in accordance with certain financial standards in the twenty-one months of governmental control just passed is now speciously held out as proof of the federal government's inability to participate genuinely and permanently in the conduct of this vital industry.

As already indicated, the notion that our railroads in the past have been highly efficient is fallacious. This is doubly true when judged from the basis of real standards of operation and organization such as science has been able to devise in recent years. Only once has this false notion been seriously questioned and that was by Justice Louis D. Brandeis when in 1910 he was acting as attorney for the Interstate Commerce Commission in the now famous Five Percent Rate Case, heard in Boston.

Since the whole subject of railway efficiency was so rudely driven into the open in 1910, attempts were made, more or less in secret by private managements, to do something by way of bringing about improvements. Most of these were made largely because of the necessity imposed by rising labor and fuel costs. They have all fallen into one class, principally mechanical improvements, which specifically resulted in grade reduction, more powerful locomotives, and heavier freight trains. The test for any such improvement has always been its justification from the viewpoint of return on the capital invested, except where improvements were forced by law for the sake of safety or service.

A close inspection of the entire situation to date reveals the fact that the only two directions in which railway operation might have been bettered were simply those of physical improvements and of extensions to the mechanical plant. And from the point of view of conventional financial standards, the net effects of such improvements when made were almost invariably absorbed by the inevitable demands of labor and the public. It never has been possible to coördinate the basic interests concerned in the railway industry, namely, the public, labor, management and the investor, so that their contributions and requirements would work cumulatively for a continuous and automatic raising of the efficiency of the industry. The attempts of the American Railroad Employees and Investors' Association, led by Mr. Morrissey, former Grand Master of the Brotherhood of

Railway Trainmen, for the purpose of bringing about an identity of interest between the railway worker and the railway investor, ended, as so many similar experiments in other fields have ended, in abject failure. The application of the principles of scientific management to certain of the processes employed in steam transportation, as originally conceived and devised, were discredited as rapidly as they were suggested or tried. An irreconcilable conflict of interest has been in existence, with the workers and the public usually on one side and the private investors with their managements, from bankers, directors and presidents on down, on the other. As showing to what miserable depths this conflict has at times precipitated important railroad systems, and to what a degree the public has been imposed on the experience of the New Haven, Rock Island, Frisco, Alton, Pere Marquette, C. H. & D., Gould Lines, and many others need but be cited.

In all this turmoil it is no wonder that the minds of the railway managements have never been primarily engaged on the problem of efficiency, service and safety except in so far as they were identical with profits. It is no wonder that the workers have been diverting their latent resourcefulness and ability from constructive channels into channels which led to the safeguarding of their basic interests, irrespective of conventionally conceived efficiency and service. Over all the specific problems of the managers which concern themselves with raising the railways to a high degree of scientific perfection, those precipitated by labor disputes, rate disputes, competition, accidents, etc., etc., had, by their very insurmountable abundance, inevitable precedence. Time was rarely, if ever, left for studying and applying to the utmost the developments of science. Indeed, it has usually been by a sort of mild mannered sufferance on the part of both labor and management that really effective scientific improvements were ever permitted to steal into the business.

It should not be difficult to imagine what kind of men for managerial posts this system has bred. The average railroad official has had to be a so-called "he-man." His main quality had to be ability to keep his subordinates in line and have them do what he and his superiors considered necessary. He had to be an autocrat with a superior will; he had to be able to "handle

men." While practical judgment, bred of long and tortuous experience, was as absolutely necessary as autocratic qualities, keen scientific insight, a thorough appreciation of the possibilities of scientific organization and of the value and significance of coöperation, all were quite secondary in the usual evaluation of the typical railway official. It certainly cannot be maintained that these officials as a class have ever acquired a high scientific appreciation of their industry. And this deficiency, of course, has had its serious effect on the efficient conduct of the railroads.

In justice to existing managements it is only fair to state that the predominant characteristics (pointed out above), which mark them, are inherent in these managements because of basic conditions over which they have little if any control. It is to be regretted, however, that those composing the managing groups are blind to their predicament and therefore take no steps towards remedying these conditions and achieving the true ideal which they now dimly realize is possible, but do not know how to secure.

One other element of importance concerns the contributions to the industry by way of mechanical improvements. Most of these have in reality come from outside sources, namely, the supply interests whose products are sold to the railroads. The stimulus actuating these supply interests has always been profit, and the cost to the railways for improved devices supplied has always been accordingly. No system has ever been devised within the railway organizations themselves whereby it became distinctly desirable to develop internally mechanical improvements, which would bring about better operating or service conditions. These all had to be sold to the railroads from the outside. The vast developments in the dependence of the railways upon private supply concerns is revealed annually in most striking ways by the elaborate exhibitions which accompany the many yearly conventions of the different railway technical associations.

Such in brief are some of the features of the railway situation in relation to past and present-day efficiency. When the government took the railroads over, the most conspicuous conditions contributing to existing or threatened inefficiency and operating troubles were recognized and partly remedied. The most important of these remedies undoubtedly was the administration's approach to the solution of the labor difficulty. How

fundamental this problem is with respect to the possibilities in real railway efficiency seems never to have been appreciated. The railroad administration, however, courageously took cognizance of it and made some progress in demonstrating its true significance, even if the maximum of results possible have not been secured.

The fight which labor has been and is conducting in the railway as in all other industries is fundamentally a fight for status. Living wages and decent working conditions are but the preliminary objectives to be won. These are necessary as starting points for further advances. Many of these objectives having already been gained, the next ones necessary for progress are becoming clear. For instance, it is becoming apparent that in order to hold the gains so far made, a large measure of responsibility for the conduct of industry devolves directly upon labor. Without power to exercise this responsibility, it is finding that its advance positions by way of better wages are being rapidly mined by increased living costs. How to control costs of production, therefore, begins to loom up as the next important problem of strategy for labor in its battle, and railroad labor finds itself acutely involved in just this phase at this very time.

An analysis of the situation from the viewpoint of railroad labor, reveals the following points: The acquirement and control of the railroads by groups of financial interests, too often sentimentally intrenched for their selfish purposes behind insurance, educational and philanthropic institutions, and widows and orphans, has resulted, by the very nature of the motives actuating these groups, in the creation of an intensified struggle in which real railway efficiency and service have suffered immeasurably. With their minds bent (in the terms of the British Labor Party's Program) not on service to the community, but—by the very law of their being—only on the utmost possible profiteering or speculation, have these groups proceeded with the conduct of the industry. Thus the inefficiency and dis-service which was inevitable has made itself felt time and again in the cost of transportation to the public. Thus railway labor, which, with its dependents, constitutes no small part of the public, has not escaped the results of the increase in the cost of living.

Obviously, therefore, as long as the conditions are such that

these groups retain control of the industry primarily as a source for profits and exploitation, the railway workers reason that their daily efforts, that portion of their living energy, of their very lives spent working in the shops, on the road, in the stations, freight houses, storehouses, and offices, is subject to a tax which must be satisfied before they can derive that return from their daily efforts which will enable them to continue to contribute their energy to the conduct of this industry. How, they reason, under such a system can they possibly give the best that is in them for the sake of the industry? Of course, they cannot, for they would then be perpetuating a system of distribution which goes absolutely contrary to that urge in the heart of labor, which has been seeking eternally to divide the blessings of the earth with greater and greater fairness.

Since the relation between rising transportation costs, living costs and the net return possible to labor from the industry conducted under the system exacting a prior lien on labor's daily efforts has grown clear, the railway workers have begun to see what actually can be made possible when these obstacles which have forced labor into its present position are removed. Primarily, as already pointed out, the railway worker is not overlooking the necessity for assuming greater and greater responsibility for the economical and efficient conduct of the industry. That his opportunity in this direction will become greater, nay indeed almost unlimited, is wholly true.

Mention has already been made of the popular delusion concerning the high efficiency of the national transportation systems. Due to the suppressed, veiled, and occasional open struggle which has been going on between the workers and the controlling interests, coöperation between workers and management for service and efficiency has never been possible in any degree comparable with the ideal. The slack, the waste, the loss which has resulted, from this is incalculable. All the thinking, all the planning, all the guidance, all the responsibility, has been arbitrarily relegated to the management, a very small group as compared with the millions of workers. If unusual efforts on the part of the workers were put forth at times, the stimuli which provoked them sooner or later lost their effectiveness. Spontaneous efforts looking towards real lasting continuous

improvements have rarely developed or ever lasted any length of time. The appeal for such a desirable state has never come from the proper source. It has never come wholeheartedly, voluntarily, from the men, from the bottom. The insistence has always come from the management, from the top.

From the minimum of individual and collective efficiency, which results when the workers give only just enough to hold their jobs, has often been subtracted that amount of efficiency which would have resulted from the effort, resourcefulness and ingenuity of the workers, which, with proper inspiration, might have been added to this minimum, had not conditions been created, due to suspicion, arrogance, lack of faith, etc., which made it imperative for the workers to convert their latent ability into means for safeguarding their own immediate and vital interests. The strike with its consequent total cessation of service and efficiency is the culmination of this particular tendency.

It appears, then, from the foregoing that labor's opportunities in assuming greater and greater responsibility for the ultimate cost of transportation certainly lie in the direction of providing that inspiration which will release its constructive and creative ability, untrammelled and unhampered by conscious or unconscious reservations and restrictions. On this particular point, Mr. Alvin Johnston, in the *New Republic* for June 7, 1919, pointed out most clearly that there is very great

"loss in inventiveness that results when men give their bodies to their work but not their whole minds. The industrial process is susceptible of infinite improvements in detail and the workers, if alert and intent upon the problem of industry, know just where these improvements are needed. They know collectively more about this than any manager, however well equipped for efficiency engineering. Most of them lack the ability to devise improvements although they may be conscious of the need. Practical inventive ability is rare. But nobody can question that there is potentially a vastly greater volume of inventive ability in the whole working class than in the small group of inventors, selected for training by extremely haphazard methods, who are almost the exclusive carriers of industrial progress today. What is requisite to the development of this incalculably valuable resource is the active interest of the workers and a pride in workmanship that not only will direct their own thinking toward the problems of production but will enlist their support for public technical education. These can be had only on one condition, the thoroughgoing revision of the relations between employer and employee. The employee must be given a share in the responsibility for production if he is to give in return a freeman's initiative."

These are the losses which the railroad industry indirectly is suffering now and which are preventing any possible approach to a high degree of efficiency and service. It is for the railway workers to retrieve these losses by their assumption of responsibility for them. Democratic control or workers' participation or the Plumb Plan must base their main claim for the correct solution of the railroad problem upon their ability to release the forces which will overcome these losses.

Nor is the burden assumed by labor for the democratic solution of the railroad problem limited only to this responsibility. In addition to the constructive contributions possible from the railway workers, much valuable assistance may be secured for the railroads by substituting for public hostility public favor. Here again the fundamental element of coöperation must be brought into play by the removal of those conditions which have created the existing divergence of interest between the public and the railroads. The loss which results from the present state of latent and open animosity between the public and the railroads is no less serious and vast than the loss which is following the inability of the present arrangement to enlist the full creative faculty of the two million railway workers. The diversion of the public's resourcefulness, ingenuity and ability from purely defensive efforts to efforts seeking constructively to benefit the industry, and thereby itself, would indeed be a long step in advance.

The conditions which are responsible for the clash of interest between railway labor and railway owners are also responsible for the clash of interest between the public and the railway owners. The public suffers from the ills of the existing system of railway control and management in ways quite identical with that of labor. Hence it is forced to protect itself by measures not widely at variance with those employed by labor. It follows, therefore, that the removal of the causes which compel both labor and the public eternally to employ all their resourcefulness to protect themselves from exploitation will make possible the complete application of the joint resourcefulness of both labor and the public to the rapid improvement of the industry.

Thus in short, the net result under the system of private financial control is that no group, neither management, labor, nor public, is ever primarily, wholeheartedly and automatically

concerned with promoting the true ideals of railway service. By the very nature of the existing influences and tendencies under this kind of control, new difficulties are created faster than old ones are solved. This condition has invariably required the full time, effort and energy of these groups and left little for the solution of the problems of service and efficiency. And lastly, under this system, just one group of the three, the smallest and, under the circumstances, the most harassed, namely, management, has been saddled with the entire responsibility for introducing improvements into the industry. It is no wonder, therefore, that the entire industry from the viewpoint of true progress has lately exhibited signs of deficient vitality.

It may be well to indicate a few of those reforms which will be brought about and scientific standards which will be rapidly approximated when those elements responsible for creating an antithesis of interest between the three groups concerned are removed, and it becomes possible for these three to coöperate genuinely towards but one end, namely, perfection of service. In a general way the reforms which are possible in the industry as it stands today, may be classified under the following heads:

- (a) Those possible through unification of the so-called competing elements of the industry, i. e., nationalization.
- (b) Those possible through the representation and participation of the workers in the management.
- (c) Those possible through coöperation between the public and the railroads as a national enterprise.

NATIONALIZATION

Under "nationalization" may be listed many of the reforms introduced by the United States Railroad Administration. Mr. William G. McAdoo in an address to the Senate Interstate Commerce Commission submitted the following as the principal improvements, already started or possible in the future:

1. The maintenance of the permit system so as to control traffic at the source.
2. The maintenance of heavy loads for cars.
3. The pooling of repair shops.
4. The elimination of circuitous routes.
5. The unification of terminals.
6. The maintenance of the "sailing-day plan."

7. The consolidation of ticket offices.
8. The utilization of universal mileage tickets.
9. The standardization of equipment.
10. The maintenance of the uniform freight classification introduced by the U. S. Railroad Administration.
11. The maintenance of common time tables between important points.
12. The maintenance of uniform demurrage rules.
13. The establishment of through waybilling freight from point of origin to destination.
14. Rendering unnecessary the rebilling by connecting or intermediate routes.
15. The elimination of the old practice of paying in mileage or per diem rental for the use of freight or passenger cars of one carrier by another.
16. The simplification of the old practice of apportioning interline passenger revenue.
17. The utilization of water routes for the relief of crowded rail lines.

And this list may be extended by adding:

18. The zoning of the railway coal supply on a national basis to prevent useless cross and backhaul, much of which is going on at the present time.
19. The pooling of motive power as well as of car and shop facilities.
20. The electrification of large railway districts adjacent to coal mine fields by securing electric power derived from super-power plants located directly in these fields.
21. The maximum utilization, through pooling and otherwise, of the test and experimental facilities now owned by individual railway systems, which lie idle for the largest part of their useful life.

REPRESENTATION AND PARTICIPATION OF WORKERS IN MANAGEMENT

The improvements possible in efficiency under this head are many indeed. This is an almost unexplored field. A few of such reforms are as follows:

1. The gaps which exist in the present administrative machinery both between the management and the men and between the various supervisory groups, such as superintendent and master mechanic's offices, chief despatcher's office, yard master's office, engine despatcher's office, car distributor's office, roundhouse office, etc., could be closed up and the possibility of the misunderstanding and poor coöperation which now result in delay and expensive irregularities of all kinds reduced to a minimum. At best the liaison be-

tween all these groups is surprisingly imperfect. From the point of view of scientific organization very little progress has been made in this particular respect.

2. There are many obstacles at the present time which make it very difficult to get accurate information concerning incoming trains and cars due at each of the terminals of a railroad into the hands of the terminal supervision in sufficient time to enable the preparation of accurate workable operating plans for a given period in advance. Most of these obstacles would automatically disappear and the others could much more easily be overcome than at present. The benefits which would follow this one improvement, in more orderly, systematic, daily operation, would be very remarkable and would undoubtedly serve in a much greater utilization of existing facilities.

3. As a corollary to the foregoing the establishment of standard schedules for all freight as well as for passenger trains, based on scientifically accurate and economically correct operating determinations, would follow. With such schedules fully appreciated and understood by all the employees because of their greatly enlarged interest in the success of the industry, the organizing of daily operation accordingly would be markedly facilitated.

4. In order that the contribution of each element, especially the employees, to the success of operating the industry might be properly determined, reliable individual performance records would be developed. The fundamental tendency under the new order on the part of everyone will be to take a deep interest and pride in these records, such as is absolutely out of the question at the present time on account of existing relationships. They will serve as a guide and inspiration to every individual to improve his particular contribution to the collective effort.

5. The real significance of thorough industrial education for each worker would quickly develop. Ways would promptly be provided for everyone, apprentice and engineer, to benefit thereby in order to increase his usefulness.

6. No mean opportunity for improved economy would lie in the direction of eliminating petty waste, particularly in engine and train supplies; water and fuel for locomotives, power houses, pumping stations; in shop and office supplies, in heat, light and power around shops, offices, stations, store houses; track supplies, tools and equipment repair materials, etc., etc. When the stake in the welfare of the service becomes of paramount importance to the workers, then this opportunity will be pushed to the utmost by those

who can do most to eliminate this petty waste, namely, the men themselves.

7. In this connection mention should also be made of such savings in damage to shipments which would follow when the employees individually feel their responsibility every moment of their time on duty for the unharmed transport of the freight and baggage entrusted to them. This, however, can only become possible when customary indifference is broken through and the desire for safe transport of materials becomes as much a part of the conscious will of the employees as furthering their own safety. It takes a deeper appeal, however, than the iron hand of discipline to bring this about.

8. When unalloyed coöperation between the supervision and employees is fully developed, the applications of science to the process of railroading will increase by leaps and bounds. The attempts of Dr. Frederick W. Taylor to apply the results of scientific research in an intensive form to the methods employed in many of our manufacturing industries have largely gone astray because the economic and psychological welfare of the workers was, under the existing industrial system, practically ignored. What little good, as a result of the scientific perfecting of manufacturing processes accrued to them in the end, amounted to nothing more than a mere sop, and this, of course, any self-respecting group of society is bound to resent. This is especially true when the net effect in reality amounts to nothing else than the further intrenchment of an arrangement which would make the ultimate emancipation of the workers all the more difficult.

However, with the basic arrangement so modified that the benefits of the thorough application of science would accrue jointly to the good of society as a whole and the producers in particular, and not primarily serve to increase the wealth of an investing class, then a vast incentive is created for the extensive application of everything that science has to offer by way of bettering railway transportation. A recent resolution passed by the American Federation of Labor is an indication of the true significance from the viewpoint of organized labor of the relation of science to industry.

9. The establishment of employment bureaus for the purpose of enlisting workers in the railroad industries and properly keeping them engaged would undoubtedly become very desirable. The existing methods for securing help and getting men started is very chaotic. Labor turn-

over, as is well recognized, is very expensive. This, through employment bureaus properly and democratically controlled, would be reduced to a minimum.

10. In a general way the loss to society because of the suppression or diversion of the workers' creative powers has been indicated. It is easily conceivable what great good can be made to follow if conditions are such that every worker is enabled to participate genuinely and wholesomely in the particular processes of transportation with which he has to do. Railway workers are of a relatively high order both intellectually and physically. They are quite conscious of the necessity for a high amount of responsibility to the community and this by very virtue of the service in which they are engaged. For them it forms an ideal foundation upon which to erect their structure of creative human contribution to the industry. The technique of building this structure is not difficult of development provided it can be shown conclusively to the worker that he will grow in status as he releases more and more of this now dormant ability.

COÖPERATION BETWEEN THE PUBLIC AND THE RAILROADS

With the element of antagonism between the public and the railroads removed, it is easily conceivable that a true spirit of coöperation, a real and lasting *rapprochement*, can be effected between these two interests. The public mind and will, as expressed through civic bodies, officials, city, county, state and national courts, legislatures and commissions, would then be released from their forced position of safeguarding, through eternal check and control, the interest and welfare of the public. The prevailing purpose will then become helpful and constructive. This again is a field which will offer a large variety of opportunities for improving railway service and efficiency. A few possibilities follow:

1. Almost everyone is familiar with the car situation throughout the country and has undoubtedly observed occasions when cars might have been loaded or unloaded with greater despatch. The whole demurrage system is largely an outgrowth of the tendency towards indifference on the part of shippers and consignees to load and unload cars promptly and get them back into service. A greater natural readiness to release equipment for service ought quickly to do a good deal to reduce the premium by way of

demurrage charges upon idle cars and so effect a plausible measure of public economy.

2. In a memorandum entitled "Can we move it?" Mr. Morris L. Cooke, Consulting Engineer, Philadelphia, Pa., has indicated that by close coöperation between the shippers and the railroads, it is possible to devise an intelligence system whereby the demands for cars can be so systematically anticipated that the likelihood of car shortages and inadequate railroad facilities in general (particularly during times of heavy freight movement) would be greatly reduced. The gain from this source by way of greater public satisfaction and improved efficiency in equipment utilization would be no small element contributing towards eventual economy.

3. In the educational field, i. e., the preparation of young men and young women to become useful members of society, it seems that the opportunity exists for the greater and greater use of our public, vocational and high schools, our colleges and universities, for the purpose of training for railway service. Our public and high schools, especially those in railroad towns, may be utilized to a much larger extent than they are, particularly during afternoons and evenings, for supplementary education in railway matters for those entering the service, as well as for adults already long in the service. For many reasons the railway industry in this country has not in the past attracted a proportionate share of thoroughly trained technicians to its organizations. With improved relations between the public and the railroads, it should prove possible to have the instruments of public education contribute more and more towards the training of railway personnel.

4. Scientific research is at present largely fostered by public institutions, such as state university experiment stations, the Bureau of Mines, the Bureau of Standards, the National Research Council, and to a more limited extent, by scientific societies. As compared with the agricultural industry, the funds advanced by the public for experimental research in the interest of the national industry only second to agriculture, namely, transportation, are very limited indeed. No doubt a very great deal of this can be ascribed to the difference in the relationship between the public and these two industries, as developed by those who stand sponsor for them. Agriculture, in the mind of the public, is a favored institution because it has not been characterized by exploitation, whereas railroading is an unfavored institution because it has been so characterized. Hence little

assistance has come from the public purse for the scientific development of the industry.

And even where the public has, as in two of our large state universities, advanced large sums for helping the railroads through engineering research, circumstances have been such, due to the snarl the industry has always been in, that even the facilities thus provided have been idle practically all the time. This is certainly a sad commentary on the alleged progressiveness of American railroad methods.

It is simply suggested here that if one-tenth of the funds spent by the public for combating the evils now associated with the railroad industry as it is controlled, added to one-tenth of the funds spent by the railroads directly for combating the public, plus one-tenth of that spent for "Advertising" in order to create or divert business from one road to another,—and this total devoted to scientific research and the application of its results to steam transportation, the effect, measured in improved service, greater safety, higher efficiency and better economy, would be ten times that now attained.

5. Under the head of reforms made possible by public faith in the industry may finally be mentioned the subject of railroad credit. This is primary in its importance to the future of the transportation industry, particularly if it is to improve its service to society. The ideal to be approximated should be the assumption, on the part of every communal interest, of a proper measure of responsibility for physical improvements or extensions of the railway facilities required by it, consistent, of course, with necessary standards. That this possibility is by no means fantastic may be concluded from the responsibility which communities now assume for through roads, park systems, educational systems and such local facilities as streets, fire protection, libraries, etc. A highly developed relationship between the public and the transportation industry would make it relatively simple along truly democratic lines, for each distinct portion of the population, in much more direct ways than are possible today, to assume and feel its full measure of responsibility for not only the successful conduct of the industry, but also for its perfection and extension in conformity with the genuine needs of society.

SUMMARY

To summarize what has been said, therefore, it is reiterated that the American railway transportation industry is by no means as efficient as it might be nor as the public generally has been led to believe. This does not mean that relatively, as judged by such conventional standards as tons per mile hauled, capacity of freight cars, size of motive power units, freight rates per ton of traffic, tons per train, the American railroads are not as efficient as those in other countries. However, the question of relative railroad efficiency is not germane to the issue which confronts the country today. The question concerns itself more with the maximum efficiency possible as determined by the extent to which the achievements of science are employed in the industry. In this respect, as has been pointed out, much indeed remains to be desired. The railroad problem never will be solved until the fundamental conditions based squarely on the economic relationships of the interests concerned tend constructively towards greater and greater harmony and an ever growing intensity in the application of science to the conduct of the industry. When this desirable state has been reached vast stores of latent resources both in the control of the railroad workers and the public will be released with the effect that the efficiency, service, economy and safety of the railroads will continuously increase. Only a truly democratic solution of the problem can possibly bring about this desirable condition.

DISCUSSION

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The time given me to prepare a discussion of Captain Beyer's paper is extremely short and, therefore, I shall be able to touch upon only a very few of the points sought to be made in it. As I read this paper, Captain Beyer takes the position that the railroads of the United States under private management have not been efficiently operated and that in order that they shall be efficiently operated their ownership must be transferred to the government and their management largely transferred to the employees under some such scheme as the Plumb Plan.

In measuring the efficiency with which an individual does his work or a management conducts a concern it is necessary to apply standards of some kind. Captain Beyer says that "the notion that our railroads in the past have been highly efficient is fallacious" and that "this is doubly true when judged from the basis of real standards such as science has been able to define in the last ten years." Unfortunately, he does not mention any of the "real standards" to which he refers, and, although I have been a constant student of railroad operation and the railroad problem for many years, he does not convey to me any idea of what standards he means.

There are, however, certain standards which have been generally applied by experts in measuring the efficiency of operation of different railroad systems, and I maintain that the application of these standards shows, first, that the railroads of the United States under private management were as efficiently operated as any other railroads in the world, and second, that under private management there was a steady and rapid increase in the efficiency of their operation. Nowhere in his paper does Captain Beyer cite a single concrete fact in support of his proposition that our railroads have not been efficiently managed. The following are some facts which may be cited in support of the counter proposition that they have been efficiently operated.

They have developed and used the most powerful locomotives and the largest freight cars in the world. I grant, of course, that in developing them they have been helped by the railway equipment and supply companies.

They have handled more tons per car and per train than any other railroads.

They have paid higher wages while charging lower freight rates than any other large system of railways.

They have handled more traffic in proportion to their capital investment—nominal or real—than any other railways.

They have handled more freight traffic in proportion to the number of their employees than any other railways.

Except in respect to the matter of safety, they have rendered as good freight and passenger service as any other railways.

Anybody who reads Captain Beyer's paper without knowledge of the facts regarding the way in which our railways have been

managed would conclude that because of their alleged domination by a few great financial interests the managing officers have hardly thought of anything except trying to please and placate their financial masters in Wall Street. Doubtless this has been the case on some roads; but on a large majority of roads it has not been the case. I have lived for many years in close contact with the operating and executive officers of our railroads throughout the United States, and I am stating what I personally know to be a fact when I say that very much the greater part of their thought and energy has been devoted to trying to increase the efficiency of operation and improve the service rendered to the public. The results of their efforts to increase efficiency are set forth in the statistics of the Interstate Commerce Commission, where every man can ascertain them.

Let us consider just a few of these statistics for the years 1906 to 1916. I stop with the year 1916 because in 1917 abnormal conditions were created by the war. In the year 1916 the railways had 1,654,075 employees. The average compensation paid to them was \$849, an increase over the average compensation paid in 1906 of \$272, or 47 per cent. A very simple computation will show that if in 1916 the railways had paid their employees the same average wage that they did in 1906 the total wages paid in 1916 would have been \$450,000,000 less than they actually were. In other words, there was an increase of \$450,000,000 a year in the pay roll in these ten years which was due to advances in average wage per employee. During the decade when this large increase in wages was occurring there was no advance in the average charge for transportation to the public. The average receipts per passenger per mile increased from 2.003 cents in 1906 to 2.006 cents in 1916, while the average receipts per ton per mile declined from 7.48 mills to 7.16 mills. The facts, that the railroads during this period made advances in wages of \$450,000,000 a year; that they made no advances in rates; and that nevertheless they earned about the same percentage of return in 1916 as in 1906, indicate that there must have been a substantial increase in efficiency of operation. The statistics of the Interstate Commerce Commission show how this increase of efficiency was obtained. The number of tons per loaded car increased from 18.9 to 22.4; the number of loaded cars per train

from 18.2 to 23.4; and the average number of tons hauled per train from 344 to 535, or 55 per cent. In consequence, although there was an actual decline in average receipts *per ton-mile*, the freight revenue earned *per train-mile* increased from \$2.61 to \$3.83, or almost 50 per cent. In these figures is to be found the chief explanation of the fact that the railroads were able, in the absence of any advance in rates, to increase the average wage per employee from \$577 in 1906 to \$849 in 1916, or 47 per cent, and at the same time maintain their solvency.

While it is easy to demonstrate the incorrectness of Captain Beyer's contention that under private management our railroads have been inefficiently operated, I do agree with him that an increase of efficiency could be secured under some plan by which the employees would be stimulated to greater efforts. It is unfortunately true that a spirit of antagonism has grown up between the owners and managers on the one side and the employees on the other which is constantly rendering it more difficult to get efficiency. But I certainly do not believe that an increase in efficiency would be obtained by substituting government ownership for private ownership, and the so-called "tri-partite management" contemplated by the Plumb Plan for private management. The Plumb Plan and all other syndicalist plans really contemplate and would result in the domination of management by labor unions. Under the Plumb Plan specifically if any surplus earnings were made the employees would get half of them, while if any losses were incurred the public would have to pay all of them. Would the employees be deeply concerned about losses no part of which they would have to pay, especially if they were incurred in order to give them higher wages? Furthermore, the Plumb Plan would drive brains out of the railroad business. No man of real ability and initiative would stay in the railroad business under that plan if there was any other business left into which he could go and get freedom of action and rewards in proportion to his ability and initiative. Consequently, while it is conceivable, although not probable, that under the Plumb Plan the employees would do more and better work, it is certain that the total amount of brain power actually devoted to increasing railroad efficiency would be diminished; and no increase in the efficiency of those who work with their hands could long com-

pensate for a substantial decline in the amount of brains devoted to the business.

Personally, I should like to see the ownership of the railroads radically changed. I should like to see it transferred, however, not to the government, but largely, or even wholly, to the railroad employees. In my opinion, the only way in which true democracy in industry can ever be brought about is, not by the government buying large industries and turning them over to their employees to run, but by the employees themselves buying these industries. It would be by no means so difficult to do as it may seem. A simple computation will show that the railway employees, by saving one-fifth of their present annual wages, investing these savings in railroad stocks and investing also in railroad stocks the normal dividends upon their stock, could in five years buy at par a majority of the stock of all the railroads of the United States. Ownership of a majority of the stock would give them complete control of the management. Everybody should be glad to see them in control of the management if they had bought control of the ownership of the properties with their own savings. The employees would then know that if the properties were efficiently managed they would gain by it, and also that if the properties were inefficiently managed they would lose by it; and it should not be overlooked that the fear of loss is just as necessary an incentive to efficiency in business management as the hope of gain.

Knowing that if the railroads were efficiently managed they would gain and that if they were inefficiently managed they would lose, the employees would have incentive not only to do the best and most work of which they were capable themselves, but also the same incentive that the present owners have to employ the best brains available to manage the properties and to give the managers the freedom of action and the authority necessary to enable them to develop and manage the properties efficiently.

When the railroads are returned to private management I personally should like to see some plan worked out under which the employees would be given ample opportunity to acquire railroad securities; under which they would be given some voice in the management even before they had acquired substantial amounts of stock; and also under which each individual employee would

be given opportunity, not only to earn reasonable standard wages, but, in addition, premiums or bonuses for doing more than the standard amount of work. But, as I have said, I do not agree that our railroads have been operated with inefficiency in the past and I feel sure that the efficiency of their operation would be destroyed by the adoption of any plan which placed the control and management in the hands of the employees while imposing upon them no financial responsibility for the results of their management.